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ABSTRACT

Although investigations of the physiological effects of oral contraceptives suggest that affective changes may accompany their use, empirical documentation of these effects has not been consistent. This study examined physiological and affective changes accompanying use of a low-dosage oral contraceptive while controlling for possible expectancy effects in 30 female college students, 12 of whom were requesting oral contraceptives for the first time and 18 of whom had been using oral contraceptives for at least 6 months. Prior to contraceptive use, new users completed the Beck Depression Inventory, State-Trait Anxiety Inventory, Life Experiences Survey, Wahler Physical Symptom Checklist, and an expectancy questionnaire assessing positive and negative affective and physical changes due to oral contraceptive use. They completed the same questionnaires 1 and 3 months after onset of oral contraceptive use. Continuing users completed the questionnaires at the time of recruitment and at 1- and 3-month intervals. Results revealed no group differences on any measure at baseline, 1-month, or 3-month follow-up, nor was there a significant group by time interaction. Positive and negative expectancy scores did not correlate significantly with individual changes on any of the measures. The findings suggest that, in this population, no evident affective or physical changes occurred with the oral contraceptive used in the study. (NB)

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AFFECTIVE AND PHYSICAL CHANGES ASSOCIATED WITH ORAL CONTRACEPTIVE USE

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INTRODUCTION

Investigation of the relationship between hormones and behavior has received increasing attention by behavioral researchers during the last several decades. Hormone-behavior relationships have been demonstrated in a number of physical and psychological disorders by examining individuals with established disorders. For a number of reasons, investigation of the effects of oral contraceptives provides a unique opportunity to examine hormone-behavior relationships. Hormone dosages can be closely controlled and monitored, and baseline data are easily obtained for within subject comparisons.

Investigation of the physiological effects of oral contraceptives suggests that affective changes may accompany their use (Paige, 1971). The idea that affective and physiological changes are side-effects of oral contraceptive use has been so widely accepted that women are now routinely appraised of their probable occurrence when requesting oral contraceptives. Empirical documentation of these effects has not been consistent, however (Herzberg and Coppen, 1970; Marcotte, Kane, Obrist and Lipton, 1970; Paige, 1971). One possible explanation for these conflicting results is that these researchers did not investigate the possible impact of their subjects' expectancy on subsequent affective changes. In a related area, experimentally manipulated expectancy has been shown to significantly affect subsequent report of pre-menstrual depression (Olasov, 1984). It is also notable that oral contraceptive effects have not been examined in recent years, although currently available oral contraceptives differ radically in their composition from those prescribed one to two decades ago. This investigation was developed to examine physiological and affective changes accompanying use of a low-dosage oral contraceptive (Ortho Novum 7-7-7) while controlling for

possible expectancy effects.

METHOD

Subjects

Thirty females between the ages of 18 and 24 were recruited from student health services of two universities, West Virginia University and Western Michigan University. Subjects were participants in a contraceptive education program. Twelve subjects (NP) were requesting oral contraceptives for the first time, and 18 subjects (OP) had been using oral contraceptives for at least 6 months.

Procedure

Just prior to beginning oral contraceptive use, subjects in the NP group completed the following packet of questionnaires: Beck Depression Inventory, State-Trait Anxiety Inventory--Trait form, Life Experiences Survey, Wahler Physical Symptom Checklist, and an expectancy questionnaire which assessed expected positive and negative affective and physical changes due to oral contraceptive use. NP subjects completed the same questionnaires 1 month and 3 months after onset of oral contraceptive use. Subjects in the OP group also completed this packet at time of recruitment and at one and three month intervals. All follow-up questionnaires were mailed to subjects in a plain envelope along with a self-addressed, stamped envelope in which to return the forms.

RESULTS

Analysis of variance revealed no group differences on any measure at baseline, one month, or three month follow-up, nor was there a significant

group by time interaction. These findings indicate that in undergraduate females, no evident affective or physical changes occurred with the oral contraceptive used in this investigation. Further, positive and negative expectancy scores did not correlate significantly with individual changes on any of the measures. A summary of our findings is presented in Table 1.

DISCUSSION

Our findings indicate that our group of first-time oral contraceptive users did not experience significant changes in depression, anxiety, or physical symptoms, as measured by the questionnaires we employed. Further, none of the first-time users terminated their pill use during the three months they participated in this study, supporting our questionnaire data. These results contradict common beliefs regarding the side effects of oral contraceptives, which are based on data collected one to two decades ago when the composition of oral contraceptive agents differed radically from those most commonly prescribed today.

It has been suggested that oral contraceptives may exacerbate pre-existing psychological conditions such as depression or anxiety. Given that our subject's scores on all questionnaires fell well into the normal range, perhaps they were less sensitive to oral contraceptive effects than a group of individuals with baseline elevations in depression or anxiety. This suggestion remains to be investigated.

Table 1

Questionnaire Data

	First Time Pill Users			Long-term Pill Users		
	Baseline	One Month	Three Month	Baseline	One Month	Three Month
BDI	6.75	8.50	5.9	7.00	7.11	5.1
STAI	36.25	38.08	36.5	37.94	37.27	37.4
WPSC*	32.00	36.20	38.6	27.60	29.40	29.4
LES	19.67	18.58	19.9	15.11	13.39	13.9
Expectancy (+)**	+0.5			+0.5		
Expectancy (-)**	-0.3			-1.6		

* Means based on data from ten subjects in each group.
** Assessed only at baseline.

BDI = Beck Depression Inventory
STAI = State-Trait Anxiety Inventory (Trait Form)
WPSC = Wahler Physical Symptoms Checklist
LES = Life Experiences Survey

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